

# Earth Viewer

The background of the entire slide is a composite image of outer space. It features a large, curved horizon of the Earth on the right side, showing a blue sky with wispy white clouds. To the left of the Earth's horizon, the Moon is visible in a crescent phase. The rest of the background is a deep blue space filled with numerous small, bright white stars of varying sizes.

Created by: Trevor Benson

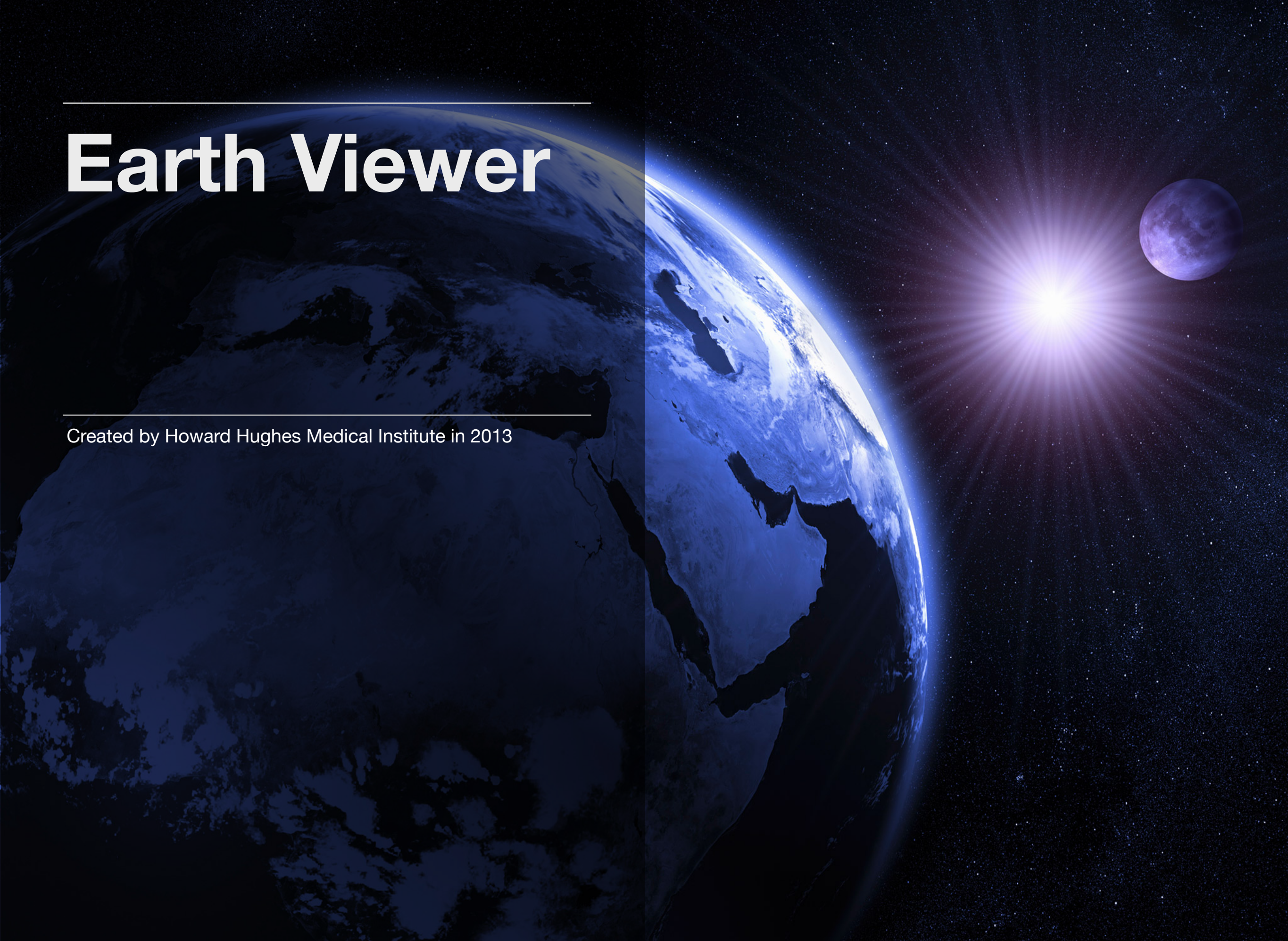


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# Earth Viewer

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Created by Howard Hughes Medical Institute in 2013





# Application Description

Earth Viewer is a three-dimensional view of Earth. Giving the user a 360-degree view of the planet from 4.6 million years ago, until the present day. The basic function of the application is to show what Earth's land masses looked like, and show the user the amount of O<sub>2</sub> and CO<sub>2</sub> that was present at a certain time. The time the user want to select is controlled by a scroll bar on the right-hand side of the screen. Graphs can be selected to view, that contain temperature, day length, biodiversity, etc. Major events such as geological events, mass extinctions, and major fossil findings can be selected and they will pop up as icons on the Earth as they are reached on the timeline. There are also short information articles that provide information about major impactful events in Earth's history.

Branches of science the app covers:

- Paleoclimatology
- Paleogeography



- Version 1.1
- Created by: Howard Hughes Medical Institute

# Video Preview

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**EarthViewer**

HHMI



# Features

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## “Charts” (Graphs):

-Can choose between: One, two, or no graphs to be present on the screen

- Temperature
- Oxygen
- Carbon Dioxide
- Day Length
- Luminosity
- Biodiversity

## In Depth:

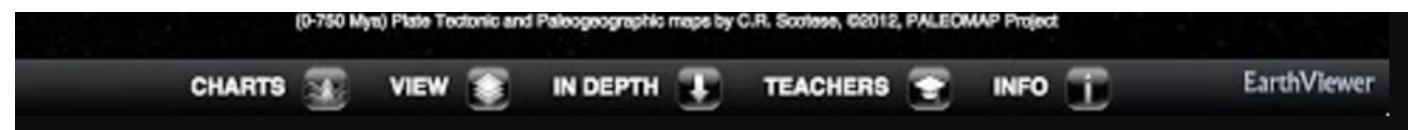
-This tab allows the user to read about different topics that have relevance to the Earth’s very long history. They include:

- Greenhouse Effect
- Mass Extinctions
- Oxygen and Animal Size
- Origin of Eukaryotes
- Oxygenation of the Planet
- Evidence of Early Photosynthesis
- Life and Chemical Cycling
- Geological Carbon Cycle
- Plate Tectonics

## “View”:

-This tab allows the user to choose different events over the history of the Earth and view the Era and Time Period in which they happened. They include:

- Geological Events
- Biological Events
- Mass Extinctions
- Impact Events
- Fossils
- Cities
- Addition of Longitude and Latitude Lines



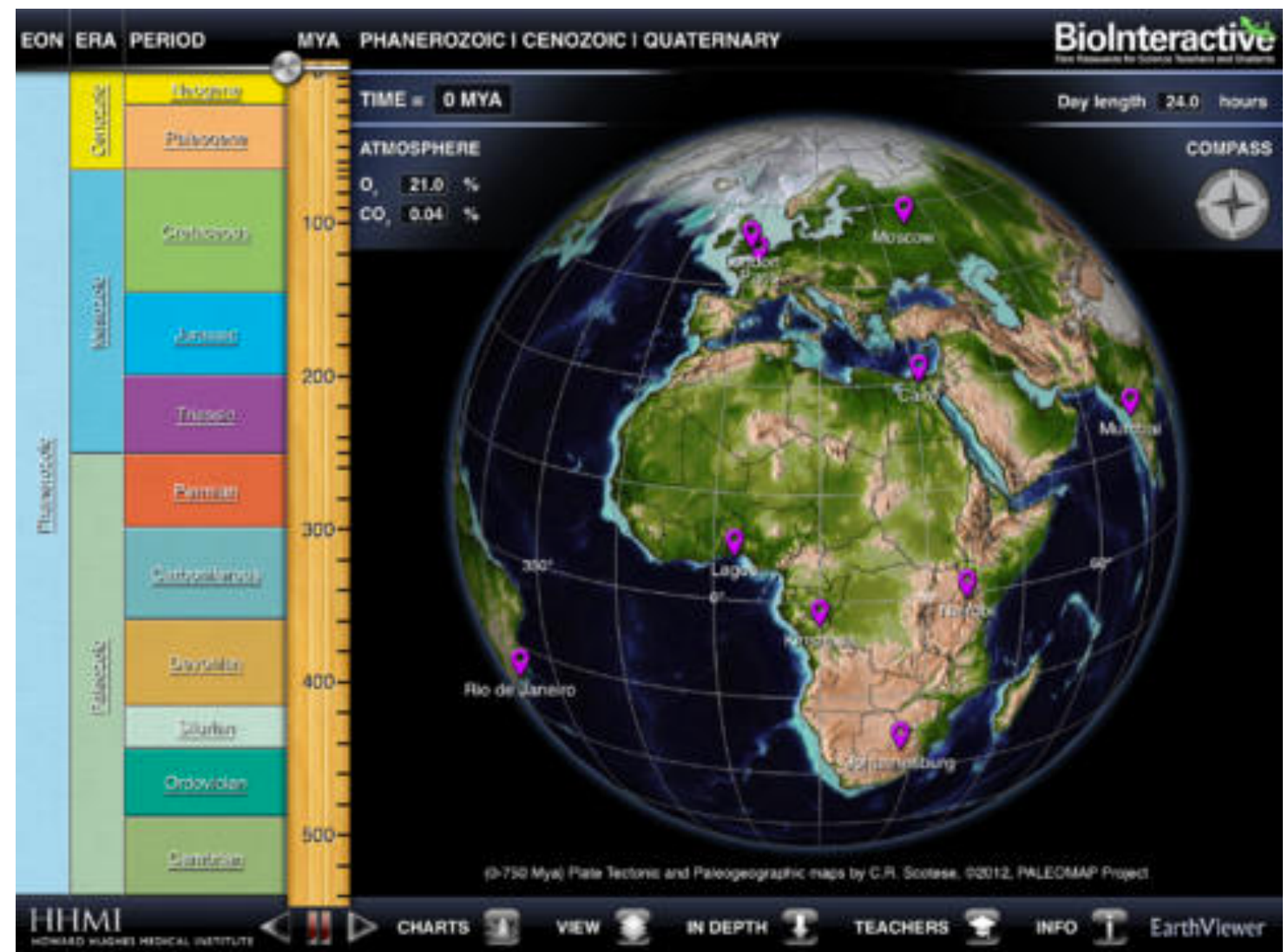
# Why and How it Should be Used in a Science Class

- Earth Viewer should be used in classrooms because of the vast amount of information on the application. It contains the entire history of the Earth (Climate and Geography) in one single app that allows you to move easily over different eras and periods.

- Uses for the application within a science class
  - Visual aid for lectures
  - Study Guide
  - Just as a fun activity!

**An activity created by the creators of EarthViewer:**

<http://www.hhmi.org/biointeractive/earthviewer-climate-guide-activity>

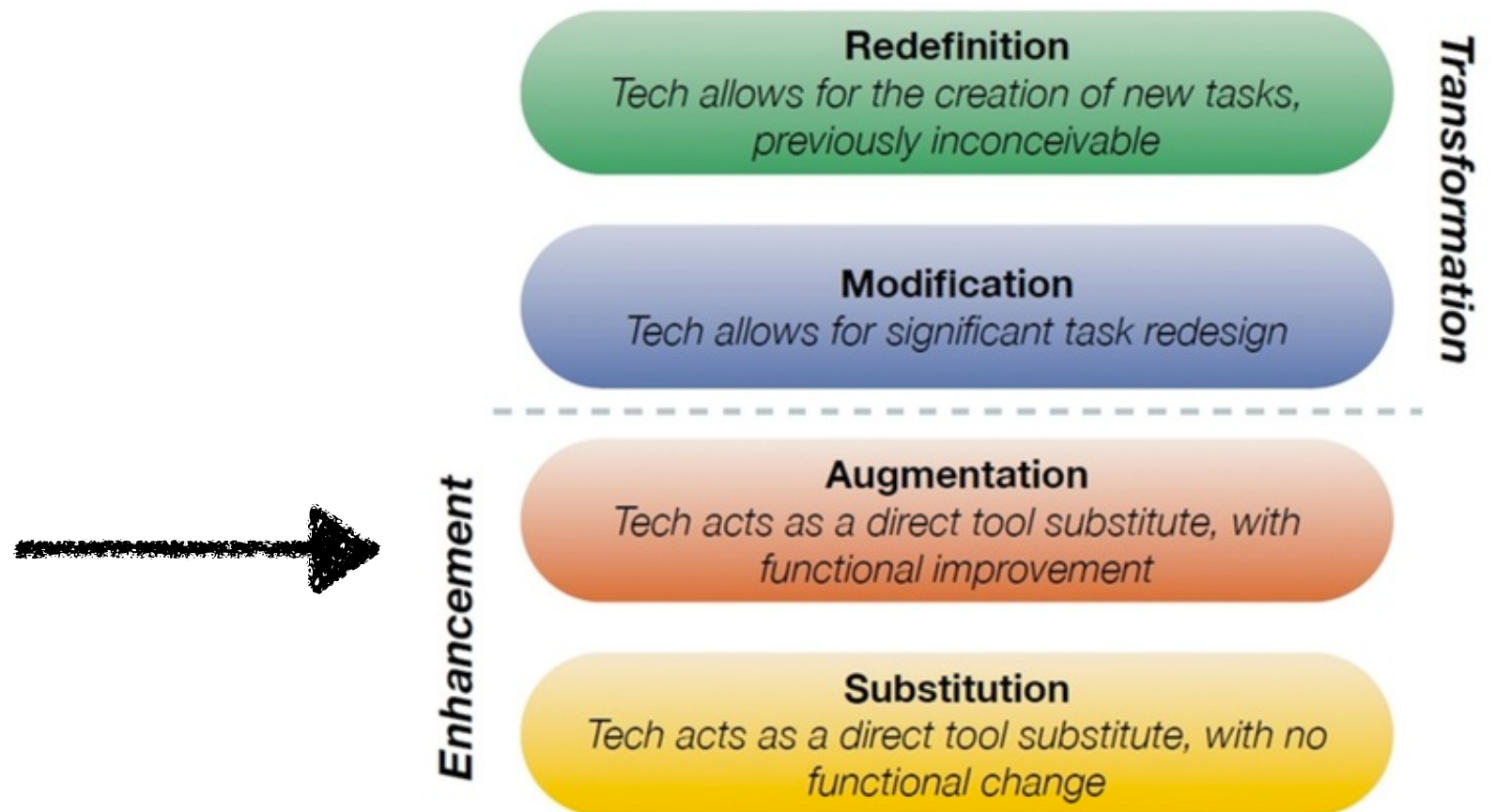




# SAMR

Although all the information that the app contains is not new, its creators have done an exceptional job designing it. It is very simple to use, and the amount of information on the app is astounding and the way it all syncs together is awesome.

## SAMR System:





# Cost and Drawbacks

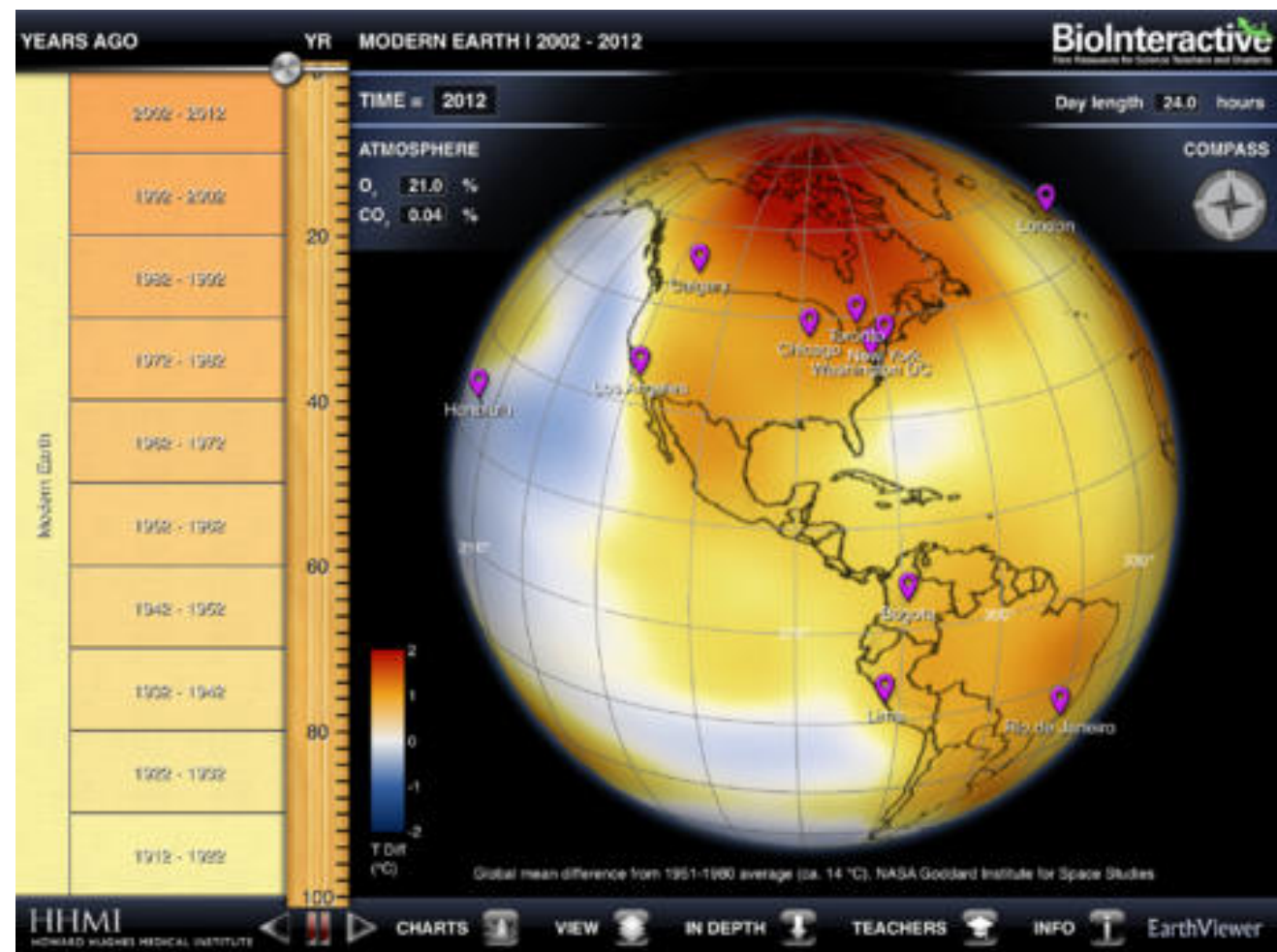
## Cost:

This application is free and doesn't contain any advertisements.



## Drawbacks:

The drawback that I find with this app is that it is only a visual tool. It does not contain games, puzzles, or any extras that could keep students really engaged with the information. This app is to be used as a visual aid for a teacher's lecture and should not just be used as an independent teaching device.





# Uses to Help With Learning Disabilities

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## Students with ASD

“Visual supports help bring in structure, routine, and sequence that many children with autism require in order to carry on their daily activities” (Roa and Gagie, 27).

### **Roa and Gagie’s (2006) reasons to why you should use visual supports:**

- They can attract and hold a student’s attention.
- They enable the student to focus on the message and reduce anxiety.
- They make abstract concepts more concrete for the student.
- They help the student express his or her thoughts.



## Students with low reading levels

- Lack of text allows students of low reading levels to follow along easily
- Lack of text also allows the application to be much less intimidating than a textbook would be



# Rating

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## “UMF” Rating Scale on a 3-point scale:

- “U”- Unbelievably Great
- “M”- Medium/Middle of the Road
- “F”- Fair at Best

## My Rating:

I gave this app an "M" only because it is missing a game or something online those lines to make this app an all around teaching tool. While it is designed perfectly as a visual aid, it is missing just that one extra feature to take it to the "U" rating.



## iTunes Community Rating:

### Customer Ratings

Current Version:

★★★★ 71 Ratings

All Versions:

★★★★☆ 149 Ratings



# References

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## Article References:

- Rao, S. M., & Gagie, B. (2006). Learning through seeing and doing: Visual supports for children with autism. *TEACHING Exceptional Children*, 38(6), 26-33.

## Pictures:

- Screenshot of EarthViewer App icon used for educational purposes under fair use exemption of the U.S. Copyright Law
- Screenshots of EarthViewer App customer ratings used for educational purposes under fair use exemption of the U.S. Copyright Law
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- Teacher With Student. Owned by “The Journal”. <https://thejournal.com/articles/2013/05/08/10-apps-for-turning-the-ipad-into-a-collaborative-device.aspx?=THEMOB>. permission pending.

## Video:

- greenmanbucket. “Earthviewer Highlights.” Online video clip. Youtube. Youtube. February 1, 2013. Web. January 26, 2016.